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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,586	01/15/2004	N. Geoffrey Greenberg	03-1097	8007
20306	7590	03/24/2006	EXAMINER	
MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP			HURLEY, SHAUN R	
300 S. WACKER DRIVE			ART UNIT	
32ND FLOOR			PAPER NUMBER	
CHICAGO, IL 60606			3765	

DATE MAILED: 03/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/759,586	GREENBERG, N. GEOFFREY	
	<b>Examiner</b>	<b>Art Unit</b>	
	Shaun R. Hurley	3765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 7-20 is/are pending in the application.
- 4a) Of the above claim(s) 15-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 7-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

1. The drawings were received on 21 December 2005. These drawings are acceptable.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3 and 7-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatch (Textile Science) in view of Smith et al (2003/0226347).

Hatch teaches a 2-ply yarn comprising two staple spun yarns of natural or synthetic fibers, the single yarns twisted in a direction opposite to that of the plied yarn (Figure 24.4, Plied Spun Yarns). While Hatch essentially teaches the invention as discussed above, he fails to specifically teach a twist difference of greater than 4 tpi, which Smith teaches (paragraph 29). It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to utilize such a tpi, so as to achieve the composite benefits of both a hard twist yarn, and a soft twist yarn.

In regards to having more than 6 tpi, Applicant provides no reasoning as to why such a number is unknown and unobvious, and without evidence of unexpected results, such a number is considered obvious over the 5 tpi difference taught in the prior art. The ordinarily skilled artisan teaches what Applicant considers inventive, mainly, a tpi difference above and beyond 3,

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and as such, the ordinarily skilled artisan would have known to use 6 tpi difference, so as to maximize the composite qualities of the yarn.

In regards to staple lengths of less than 2 inches, and deniers of 1.5, both are well known qualities of the fibers taught by Hatch, and obviously taught. Likewise, Applicant teaches that the single yarns inherently will have a weaker tensile strength due to their over twisting.

#### ***Response to Arguments***

4. Applicant's arguments filed 21 December 2005 have been fully considered but they are not persuasive.

Applicant's basic argument is that the combination does not teach the invention as claimed. That specifically, Smith cannot be combined with Hatch because it is nonanalogous art. Examiner respectfully disagrees. All yarns and ropes, regardless of size, are similar in structure, and as such are considered related in the art. Smith specifically teaches a structure for combining rope components. While he may be concerned with improved resistance to compression and abrasion, that does not take away from what he teaches, mainly an unbalanced twist configuration. Hatch specifically teaches the materials and stranded structure, and as Applicant explains, is silent to the number of turns per inch. The ordinarily skilled artisan would have been more than capable of gleaming this from Smith, and applying as detailed previous, and reaffirmed above.

***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shaun R. Hurley whose telephone number is (571) 272-4986. The examiner can normally be reached on Mon - Fri, 6:30 am - 3:00 pm, off second Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John J. Calvert can be reached on (571) 272-4983. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SRH  
20 March 2006

  
Shaun R Hurley  
Patent Examiner  
Tech Center 3700